



US006110492A

**United States Patent** [19]

Alving et al.

[11] **Patent Number:** **6,110,492**[45] **Date of Patent:** **Aug. 29, 2000**[54] **IMMUNOGENIC COMPOSITIONS**

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[21] Appl. No.: **09/086,552**

[22] Filed: **May 28, 1998**

**Related U.S. Application Data**

[60] Provisional application No. 60/047,964, May 28, 1997.

[51] **Int. Cl.<sup>7</sup>** ..... **A61K 9/127**

[52] **U.S. Cl.** ..... **424/450**; 436/829

[58] **Field of Search** ..... 424/450, 94.3,  
424/1.21, 9.321, 9.51, 417; 514/947; 436/829;  
935/54; 428/402.2

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[57]

**ABSTRACT**

A composition which comprises a stable oil-in-water emulsion having a continuous water phase and a discontinuous oil phase and containing, as sole stabilizing agent, a sufficient quantity of smectic mesophase vesicles and their disintegrated forms to provide at least about 100 mM amphiphile is stable and useful as an adjuvant, in a vaccine, or drug delivery system

**15 Claims, 19 Drawing Sheets****ONCO VAX-P EMULSION  
SKIN TEST REACTIVITY TO PSA**